



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,765	06/23/2006	Takashi Ohki	40404.42/ko	1266

54068 7590 03/28/2008

ROHM CO., LTD.  
C/O KEATING & BENNETT, LLP  
8180 GREENSBORO DRIVE  
SUITE 850  
MCLEAN, VA 22102

EXAMINER
----------

MONIKANG, GEORGE C

ART UNIT	PAPER NUMBER
----------	--------------

2615

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

03/28/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JKEATING@KBIPLAW.COM  
uspto@kbiplaw.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/596,765	<b>Applicant(s)</b> OHKI, TAKASHI	
	<b>Examiner</b> George C. Monikang	<b>Art Unit</b> 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 3 and 4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3 and 4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 10/596,765.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/23/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al, US Patent 6,757,659 B1, in view of Hibino, US patent 4,815,133, and further in view of Tatsuta et al, US Patent 7,292,697 B2.

Re Claim 3, Tanaka et al discloses an audio apparatus comprising: an audio mixing circuit that inputs a left channel audio signal (fig. 1), a right channel audio signal (fig. 1), a center channel audio signal (fig. 1), a surround left channel audio signal (fig. 1), a surround right channel audio signal and a sub-woofer channel audio signal and that is arranged to deliver output by respectively mixing a center channel audio signal (fig. 1), a surround left channel audio signal (fig. 1), and a sub-woofer channel audio signal with a left channel audio signal (fig. 1) in a predetermined ratio, a center channel

Art Unit: 2615

audio signal (*fig. 1*), a surround right channel audio signal (*fig. 1*), and a sub-woofer channel audio signal (*fig. 1*) with a right channel audio signal (*fig. 1*) in a predetermined ratio; an audio signal conditioning circuit that inputs the output signal of the audio mixing circuit and adjusts the signal waveforms (*fig. 2: 19*); but fails to disclose mixing the channels in a predetermined ratio (*Hibino, col. 4, lines 18-24*). The combined teachings of Tanaka et al and Hibino fail to disclose a power amplifier section including a plurality of power amplifiers that amplify audio signals whose signal waveform has been adjusted; and a speaker section including a plurality of speakers driven by the amplified audio signals. However, Tatsuta et al does (*Tatsuta et al, fig. 1a*).

Taking the combined teachings of Tanaka et al, Hibino and Tatsuta et al as a whole, one skilled in the art would have found it obvious to modify the audio apparatus comprising: an audio mixing circuit that inputs a left channel audio signal (*fig. 1*), a right channel audio signal (*fig. 1*), a center channel audio signal (*fig. 1*), a surround left channel audio signal (*fig. 1*), a surround right channel audio signal and a sub-woofer channel audio signal and that is arranged to deliver output by respectively mixing a center channel audio signal (*fig. 1*), a surround left channel audio signal (*fig. 1*), and a sub-woofer channel audio signal with a left channel audio signal (*fig. 1*) in a predetermined ratio, a center channel audio signal (*fig. 1*), a surround right channel audio signal (*fig. 1*), and a sub-woofer channel audio signal (*fig. 1*) with a right channel audio signal (*fig. 1*) in a predetermined ratio; an audio signal conditioning circuit that inputs the output signal of the audio mixing circuit and adjusts the signal waveforms (*fig. 2: 19*) of Tanaka et al with mixing the channels in a predetermined ratio as taught in

Hibino with a power amplifier section including a plurality of power amplifiers that amplify audio signals whose signal waveform has been adjusted; and a speaker section including a plurality of speakers driven by the amplified audio signals as taught in Tatsuta et al (Tatsuta et al, fig. 1a) to extract the difference signals and to improve the sound quality.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al, US Patent 6,757,659 B1, Hibino US patent 4,815,133, and Tatsuta et al, US Patent 7,292,697 B2, as applied to claim 3, and further in view of applicant's admitted prior art (hereinafter referred to as AAPA; figs. 4-5, paras 0004-0008 of applicant's pre-grant publication number 20070147622).

5. Re Claim 4, Tanaka et al, Hibino and Tatsuta et al disclose the audio apparatus according to claim 3, wherein said audio mixing circuit is arranged to select one of a condition in which output is delivered after mixing (Tanaka et al, fig. 1), but fails to disclose a condition in which output is delivered without mixing the left channel audio signal, right channel audio signal, center channel audio signal, surround left channel audio signal, surround right channel audio signal, and sub-woofer channel audio signal. However, AAPA does (fig. 4, para 0005).

6. Taking the combined teachings of , Tanaka et al, Hibino, Tatsuta et al and AAPA as a whole, one skilled in the art would have found it obvious to modify the the audio apparatus according to claim 3, wherein said audio mixing circuit is arranged to select one of a condition in which output is delivered after mixing (Tanaka et al, fig. 1) of

Art Unit: 2615

Tanaka et al, Hibino and Tatsuta et al with a condition in which output is delivered without mixing the left channel audio signal, right channel audio signal, center channel audio signal, surround left channel audio signal, surround right channel audio signal, and sub-woofer channel audio signal as taught in AAPA (fig. 4, para 0005) to create a more dynamic system.

### **Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Monikang whose telephone number is 571-270-1190. The examiner can normally be reached on M-F. alt Fri. Off 7:30am-5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2615

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

George Monikang

2/28/2008

/Vivian Chin/  
Supervisory Patent Examiner, Art Unit 2615